



THE HARVEST

Macdonald College

Thursday February 29, 1980.

The Royal Issue



Acid Rain Reigns

Although John Lewis' seminar on acid rain was more about the origins of the problem, than on the implications, as advertized, he did talk about the regions of Eastern Canada that were likely to be affected, and where the pollution was likely to come from.

Acid rain affects areas over silicious rocks, whose soils have little buffering capacity against the acid. This includes almost all of the Atlantic Provinces area, and the Canadian Shield in Quebec.

The areas around industrial zones affected by acid rain have been steadily increasing. Lewis has been studying the wind movements that precede the occurrence of acid rain, and in some places air-borne pollutants may be carried for over a thousand miles before they precipitate.

In this regard, the distinction between wet and dry precipitation is critical. Dry precipitation is the pollutants that just fall slowly back to the ground after being emitted. Their effect is predominantly local. Wet precipitation is acid rain, and is mainly pollutants carried in the small water droplets of clouds, and also the particles picked up by raindrops as they fall. The effect of these water-borne pollutants is to concentrate their

effect in one area.

Not surprisingly, some of Lewis' back trajectories of air masses that had caused acid rain, passed over Sudbury and Noranda. However, he said an Ontario Hydro official had said he expected oxides of nitrogen from power generation to become a more important source of acid rain than the industrial emissions of sulphur dioxide.

The integrity, or concentration of pollutants from sources such as Sudbury is dependent on the vertical temperature structure of the atmosphere (the lapse rate.) Under the right conditions a plume of Sudbury smoke has been visible for two hundred kilometers on satellite photographs.

Lewis is studying the acid rain incidence in Schefferville, a sub-arctic climate, and is hoping there will be money available to study the effect of the rain on the terrestrial environment. He is taking an 'episodic' approach, rather than studying the mean incidence of acid rain, as a way of better understanding its causes.

ANIMAL SCIENCE

The curriculum in Animal Science involves intensive training in both the basic and applied biological sciences as related to domestic animals. Graduates are professionally qualified and generally enter agricultural industries, mainly sales and marketing, government service, (Federal and Provincial), extension, teaching or post-graduate studies.

Students in the Animal Science undergraduate program may apply for entrance to the pre-veterinary semester at the Ontario Veterinary College, or first year of the DVM program at l'Ecole de Medecine Veterinaire, St. Hyacinthe, Quebec. Although practical experience is given through the production courses, students are also strongly advised to obtain at least three months' additional experience on a commercial livestock farm before graduation.

Wwelcome

Throughout 1980 a number of special events will be taking place on the Macdonald campus of McGill University. Each event, in its own way, will be commemorating the 75th anniversary of the founding of Macdonald College. The College Royal, bigger and better than ever, will be one of these events, and it is our hope that it will provide a learning experience for those who have contributed to its presentation, and for those who view it as our visitors.

Our students and staff have worked hard to attempt to illustrate the nature of the professional education available on this campus. On behalf of the Faculty of Agriculture, it is my pleasure to welcome all visitors to the Macdonald campus on the occasion of the 1980 version of the Royal. Hopefully your visit will provide an incentive to learn more about the 'Spirit of Macdonald.'

L.E. Lloyd

Dean, Faculty of Agriculture
and Vice-Principal.

Solar Power Hour

The topic of Solar Power drew quite a crowd to an Ecolifestyles seminar on the subject two weeks ago. Although all three speakers strayed well over their twenty minute time limit, their approaches were very different, which made the evening interesting.

Pierre Christin talked about the positioning of solar panels so as to collect the most sun. As well as increasing the length of its arc in the summer, the sun also rides higher in the sky. At this time an angle of about 45 degrees with the horizontal is most effective. In winter this angle would be thirty degrees, except for the effect of snow. The snow reflects light from the ground and thus makes an angle closer to the vertical more practical. The orientation of the panel should be towards the south.

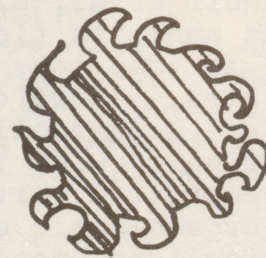
He showed some slides of collectors made by people in one of the courses he teaches at John Abbott. The efficiency was measured plotting the heat gained against the solar energy available. One collector was seventy percent efficient. Air passed up over a series of black-painted aluminum louvres behind a glass front. Louvres were used because with a flat surface, just the thin layer next to the collector surface gets heated. This collector was also the best insulated. Collectors with poor insulation may have negative efficiencies, ie they lose heat.

Mike Dorgan talked about solar greenhouses, and especially the differences between those built to collect heat, and those to grow plants in. Those for plants must be kept at a fairly constant temperature, while the 'walk-in solar collector' can get very hot during the day and cold at night. This type has its walls painted black to absorb all possible heat. The hot air can be drawn off using a fan, and the heat stored in water-filled oil drums, or in stones. This heat would be used to heat the house, whereas for the greenhouse the stored heat would

be needed to keep the plants warm at night. To stop the place getting too hot during the day the walls are painted white. Dorgan also talked about the materials that could be used for the construction of this lean-to type greenhouse.

For Phil Warman, the materials at hand was the most important factor. He has built solar greenhouses both for Blair Farm and for his own house. The Blair Farm greenhouse is a crude affair of plastic sheeting designed to extend the growing season forward a little so the farm can prepare its own transplants.

At his house the greenhouse is built of rigid, double wall plastic that is mildly insulative. Heat storage is provided by crushed stone (which had to be washed first), and the heat storage area is directly below the greenhouse. It is insulated by four foot by eight foot sheets of styrofoam. It was these sheets that determined the forward size of the greenhouse. It does not get too hot in summer as it is shaded by a deciduous tree.



Typing: Andrée Deschênes, Stéphane Labelle, Joanne Hébert, Jon Waterhouse.

Layout: Joy Garnett, Hubert Brochard, John McMullen, Laurent Gauthier, Jon Waterhouse.

Advertising: Susan Ryan, Joy Garnett.
Graphics: Joy Garnett, Hubert Brochard.
Editor: Jon Waterhouse.

BLACKBIRD B.B.Q. and FROZEN EGGS

Food science departement

The Food Science Departement is one of the facets of the college that Mac students know little about. It is in fact a very misunderstood field by many people in the general public.

No! Food Science does not lead to diet planning although the F.Sc. students may have the opportunity of sharing the same courses as dietetics, consumer and nutrition students. We do have a good knowledge of food microbiology, food chemistry, biochemistry, food engineering and processing, physical and analytical chemistry, biobiochemistry, nutrition, statistics, economics and much more.

Upon graduation, we are qualified to undertake jobs such as quality control, production management, research and development technical sales, food inspector ..

And to give you a small idea of our interests, here is a description of a few projects going on in the departement:

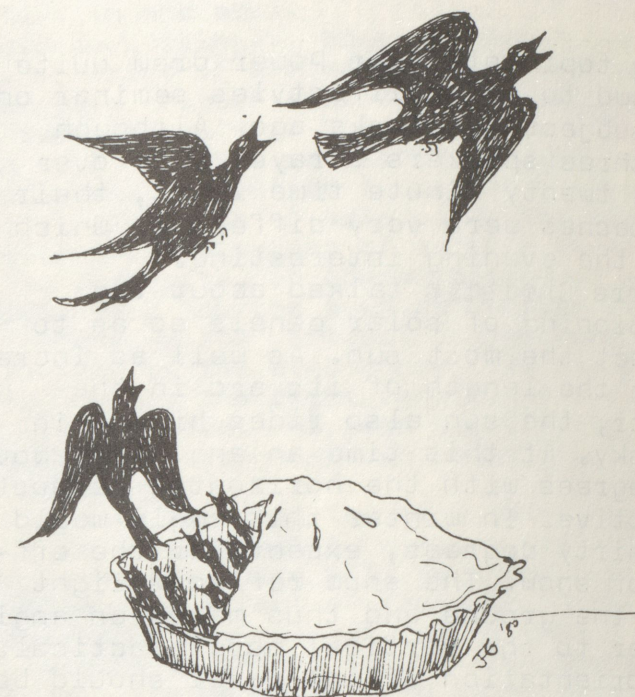
- PCB black birds
- Effects of freezing whole eggs
- Thermokinetics of folic acid
- Flavours of spray dried foods

Susan Margaret Ryan, a 3rd year student in nutrition, has a project on black birds. Because farmers are killing those birds which eat their crops, black-birds are wasted. Susan wants to find new uses for these birds, so that they may be classified as a game bird. Therefore she must increase their food acceptability. For this she is preparing a guide to recipes and methods of preparation, with the use of a taste panel (organoleptic evaluation).

Recently Agriculture Canada in Ottawa has uncovered an unsafe level of PCB's in the birds. Susan is presently testing younger birds in the hoping of detecting lower levels of PCB's.

Swee Boon Tan is a third year student. His project on the freezing of whole eggs started when an article ("The effects of Freezing on egg whites") suggested that nothing was done to study the freezing of blended whole eggs.

Frozen foods will acquire an unpleasant texture if they contain egg whites or egg yolks, like in an angel cake or custards.



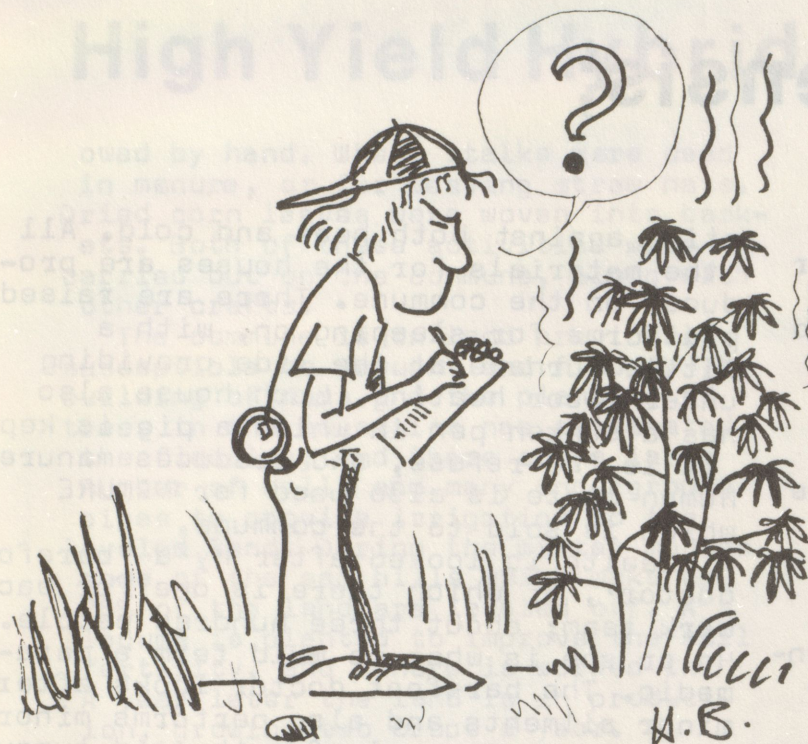
What happens if blended whole eggs are cooked and then frozen? Swee Boon is presently seeking an answer.

Asterida MNkeni est une étudiante en maîtrise. Elle s'intéresse à la thermokinétique des différentes formes de l'acide folique. Les Canadiens ont une diète pauvre en acide folique et la rétention de ce nutriment la concerne. Contrairement à la vitamine C, la riboflavine et la thiamine, l'acide folique ne fut pas encore étudié.

Asterida chauffe des solutions d'acide folique à différentes températures et intervals de temps. Elle trouvera le taux de destruction et l'énergie d'activation associés à cet acide. Ces paramètres formeront un modèle théorique qu'elle comparera à ceux de l'épinard par exemple. Ses résultats sur la rétention nutritive en acide folique seront utilisés dans l'industrie alimentaire.

John Elgar est aussi un étudiant en maîtrise. La rétention des saveurs l'intéresse et il a choisi de travailler sur le séchoir à pulvérisation. Ce dernier sert à l'évaporation de l'eau en formant une nuée de fine gouttelettes dans une masse d'air chaud. Cette méthode de déshydratation demande relativement peu d'énergie, détruit peu

continued on page 5



Weed Winners

Biological Control of Weeds Classical Game

Start

You walk, you run, you look, and you find a plant.

- | | |
|--|------|
| 1). It is not a weed | Stop |
| It is a weed | Go |
| 2). The weed is rare and native. | Stop |
| The weed is all over and is introduced | Go |
| 3). The weed is growing only in a cultivated field | Stop |
| The weed is covering pasture, rangeland | Go |
| 4). The weed has a related crop species | Stop |
| The weed has no relation | Go |

If you won the first part you may go where the crop originated. Europe, Asia... to look for a pest.

- | | |
|--|------|
| 5). The pest needs a hot winter, a very high temperature | Stop |
| The pest is rough and likes the Canadian climate. | Go |
| 6). The pest loves all plants | Stop |
| The pest is fussy and accepts only your weed. | Go |
- You come back here, reach your target and release it.

It died

It survived

You have a lot of options, but you have to go to the display of Plant Science on Biological Control of weeds to understand the game, and to know the participants in the competition.

Joanne Hébert

Black birds

les nutriments et accorde aux aliments poudreux une stabilité étonnante. Quelques exemples de ce principe sont le lait en poudre, les cafés instantanés, les édulcorants à café, certaines soupes, des produits pour bébé, la poudre d'ail, etc.....

Le consommateur aime ses aliments reconstitués s'ils ont la saveur du produit original. Ainsi John recherche les facteurs qui peuvent affecter la saveur des aliments pulvérisés.

Robert Johnson

good foods naturally

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• light lunch

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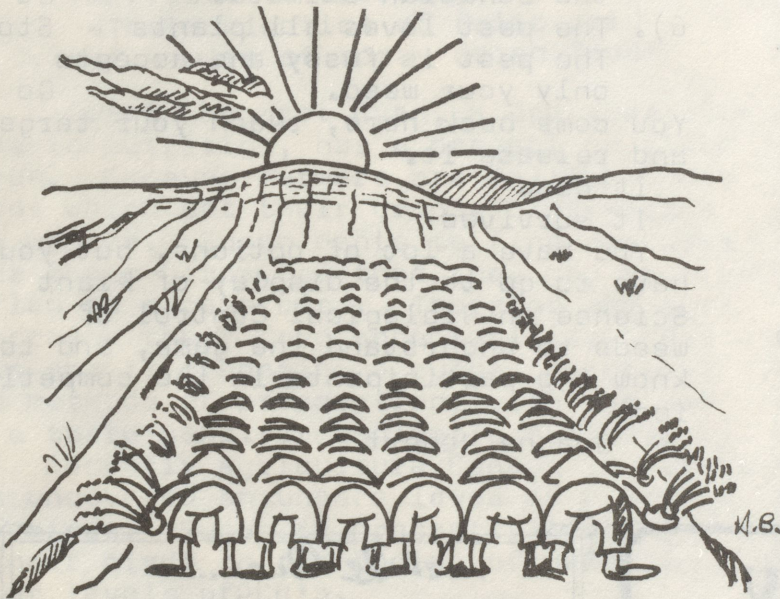
Communis Chinensis;

North China; where the wheat yield per hectare was seventy percent higher than in North America; where it is harvested by both combine and hand, and where pigs are used to process nutrients from food wastes, to recycle them to the soil.

A new National Film Board film, 'North China Commune', deals with life on an agricultural commune of 14,500 people who farm 3000 acres of land.

The eighty minute film, presented by Ecolifestyles last week, avoided editorialising, and presented very generally the life of the commune as the NFB crew saw it in their three months there.

The members of the commune are guaranteed food, shelter, clothing, health and burial. Men retire at sixty and women at fifty, although they continue to work at light tasks during their old age.



Food, for working people, is what they work 70% of their time to obtain.. This work for adults is about eight hours a day, six days a week, during the growing season. On this commune wheat is the main crop and diet staple.

Shelter is in individually owned houses, which are built with the help of a loan from the commune and the free labour of neighbours. The outside of the house is brick, and inside this is earthbrick.; which provides insul-

ation against both heat and cold. All the materials for the houses are produced on the commune. There are raised platforms for sleeping on, with a little furnace at the side providing under-floor heating. Each house also has a sunken pen in which a pig is kept.

It is fed refuse, and produces manure. Human waste is also used for MANURE which is sold to the commune.

Health is looked after by a 'barefoot doctor', of which there is one for each work team; about three hundred people. He or she is what we would term a paramedic. The barefoot doctor looks after minor ailments and also performs minor operations. Removal of a thyroid tumour was shown. Seriously ill people have to be taken to the nearest town. The medicine is a mixture of Western and Chinese medicine.

Family planning is an important item. Families are encouraged to have only two children five years apart. The parents of five girls who were still trying for a son, were finally convinced that

their ideas were out of date; it was no longer necessary to have a son to support them in their old age. The

commune would take care of them. The woman was sterilized.

The agriculture, obviously, is labour-intensive. The commune was harvesting two crops a year. The first was wheat, harvested in the summer, and then other plants, predominantly rice, beans and soybeans, were immediately planted and then harvested in the fall.

During the harvest period everyone works, even the children. Workers from the city are brought in. In a fifteen day period the wheat and barley was all harvested, manure applied to the soil, and the rice and other crops transplanted. Some corn had already been intertilled in some fields.

There was one combine in the commune but most of the reaping was done with rather crude hand scythes. A cutter-bar mounted on the front of a tractor appeared to work very well.

The grain was threshed in the open on well-compacted ground. Rollers were pulled over the grain, either by animals or machines, and it was then winn-

High Yield Hybrid

owed by hand. Wheat stalks were used in manure, or for weaving straw hats. Dried corn leaves were woven into baskets. Both of these activities were carried out on the commune, along with other crafts.

The commune is on land previously susceptible to drought and floods. The building of dams and the planting of trees in the mountains has eliminated the flooding, and there are a large number of wells and many underground pipes to provide irrigation to the leveled land. During the winter months some of the san hills which make up 25% of the land are leveled off. A legume is planted to improve the soil fertility, and manure is worked in. A year later the land is in production, growing two crops a year.

At school the children are taught the importance of careful work and dedication. They make chinese fiddles, for which the commune has a contract with a department store, for seven hundred and twenty a year.

Other workers make parts for transformers from scrap metal. The craft activities are all to make a profit for the commune.

Tony Ianzelo, the director of the film, was available for discussion after

the showing. He said he would very much like to go back to film again with the co-operation of the Chinese film crew who came to Canada to film as part of the exchange. For this film the crew had to work quite hard to find out what was actually going on in the community, and there were also restrictions on what they could film. He felt it was not a major drawback that people interviewed came out mainly with party lines on subjects, and gave no criticism of what they were told to do, although they did admit there were some problems.

The two men of the household featured were away working in another city. "Wouldn't you like your husband to live here?" "He works where he is needed."

An actor brought in for the celebration of the harvest was prompted to mention that the play they were about to put on could not have been presented during the reign of the 'Gang of Four'. People talked of the starvation and deprivation of the 'old times', and of how happy they were now.

"We have a house with eleven rooms, we have a closet, three watches and to clocks, three bicycles, six pairs of shoes, plenty to eat. What reason do I have not to be content?"

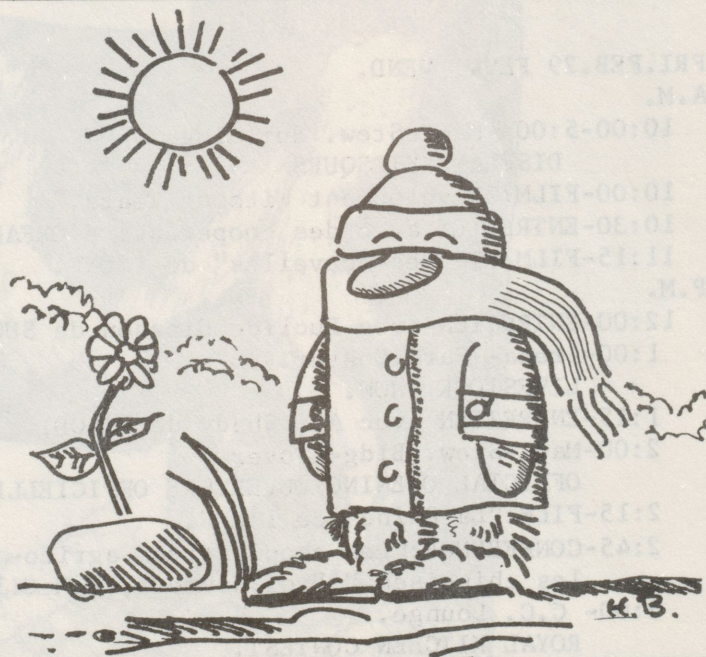
Jon Waterhouse

Did you know?

- 1) Canada's food system consumes 12-15% of our national energy budget?
- 2) The Science Council of Canada estimates that we waste approximately 48% of energy used today.
- 3) The latest way to diet; or die?
Take off your clothes!
The average, moderately active clothed man needs 2880 cal/day.
A non-clothed man needs 4100 cal/day.
Save energy by wearing clothes.
- 4) Only 18% of the energy used in the food system is on the farm. Well done guys. But what about the other 82%?

For answers to this, and other energy savers, visit the Home Economics display, MS B017.

We have delicious québec apple juice for the first 600 visitors.



College Royal

WED.FEB.27 FÉV., MERC.

P.M.

7:30 - C.C. Lounge.

CONFERENCE- DÉBAT sur les PLANS
CONJOINTS (MARKETING BOARDS).

Invités: Pierre Gaudet, prés. de l'UPA
Robert St-Louis, prof. écon.
rurale, U. Laval.;
Pierre Normandeau, producteur
de porcs;
Lucien Scott, producteur
d'oeufs;
Jean-Pierre Barrette, pro-
ducteur d'oeufs;
Jeanny Sauvé, producteur de
lait industriel.

9:00 - C.C. Lounge.
"NICKELODEON."

THU.FEB.28 FEV., JEUD.

P.M.

4:00 - C.C. Lounge

RENCONTRE avec le ministre de l'agri-
culture du Québec, Jean Garon.

7:00 - C.C. Lounge

CONFERENCE with Dr. Richard Harwood,
from the Organic Gardening & Far-
ming Research Centre, Pennsylvania.

8:00-10:00 - Bar Disco.
CABARET NIGHT

FRI.FEB.29 FEV., VEND.

A.M.

10:00-5:00 Mac.-Stew. Building
DISPLAYS/KIOSQUES

10:00-FILM: "Development Without Tears."

10:30-ENTRETIEN avec des coopérants d'OXFAM

11:15-FILM: "Terres nouvelles" de l'ONF.

P.M.

12:00-ENTRETIEN avec Euclide Giasson de SUCO

1:00-Arena- Farm Center.

LIVESTOCK SHOW.

1:15-ENTRETIEN avec Ali Shady de l'ACDI.

2:00-Mac.-Stew. Bldg- Foyer

OFFICIAL OPENING/OUVERTURE OFFICIELLE.

2:15-FILM: "La Chine" de l'ONF.

2:45-CONFERENCE: "Les coopératives agrico-
les chinoises." Prof.Noumoff, U.McGill

3:00- C.C. Lounge.

ROYAL KITCHEN CONTEST.

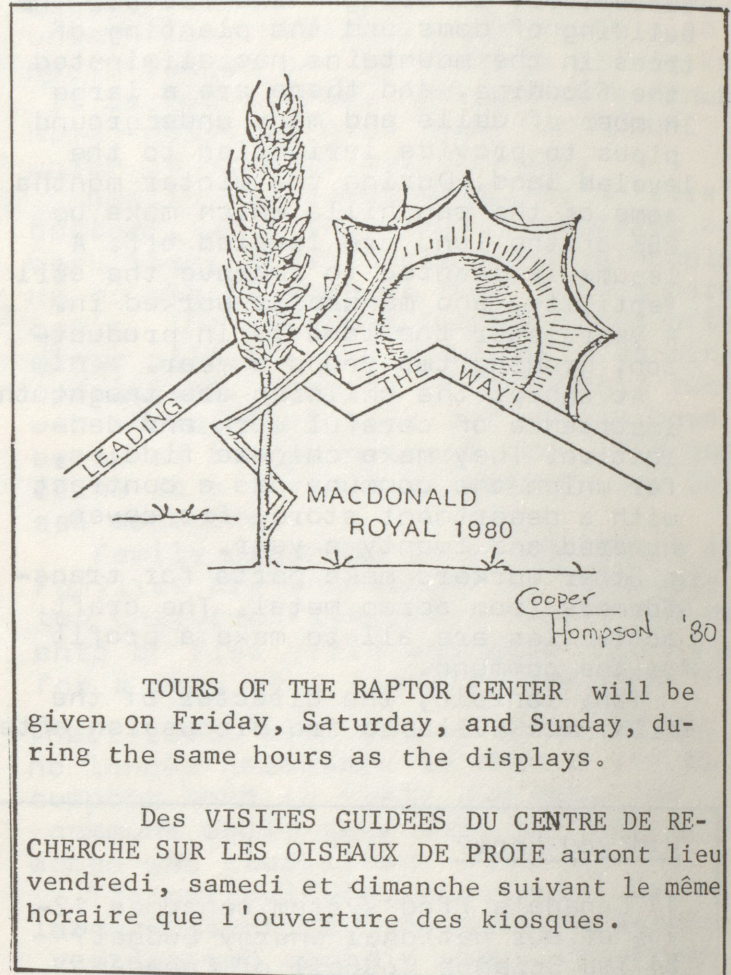
3:30-DEBAT avec des membres de l'ACDI, SUCO,
OXFAM, Développement et Paix.

6:00- C.C. Lounge.

"FESTA REGALE"

6:30-8:30 INTERCOLLEGIATE LIVESTOCK
JUDGING.

8:00-12:00 C.C. Lounge.
CAFE ROYAL.



TOURS OF THE RAPTOR CENTER will be
given on Friday, Saturday, and Sunday, du-
ring the same hours as the displays.

Des VISITES GUIDÉES DU CENTRE DE RE-
CHERCHE SUR LES OISEAUX DE PROIE auront lieu
vendredi, samedi et dimanche suivant le même
horaire que l'ouverture des kiosques.

SAT.MAR.1 MAR., SAM.

A.M.

9:00-5:00 Mac.Stew. Bldg

DISPLAYS/KIOSQUES.

9:00-5:00 Arena- Farm Center.

LIVESTOCK SHOW.

11:00-MS2-045

CONFERENCE: "Ecologie urbaine"

par Dr Pierre Dansereau, écologiste.

P.M.

12:00-1:00 INTERCOLLEGIATE LIVESTOCK
JUDGING.

1:00-MS2-045

CONFERENCE: "Implication écologique
du projet de la Baie James." Avec
Dominique Roy, Société d'énergie B. J.

schedule of events

12:00 R3-045

FILM: "No Act of God" followed by a discussion with two guest speakers on nuclear energy.

1:30 MS2-045

CONFERENCE: "Problèmes des marécages en agriculture." Par Jean Gauthier, Service canadien de la faune.

1:30 R3-045

CONFERENCE: "La végétation du Québec méridional, écologie, utilisation, protection." Par Dr Grantner, U. Laval.

1:00-1:00 A.M. C.C. Ballroom

SQUARE DANCE & COMPETITION

MAR. 2 MARS, DIM.

12:00 R2-045

CONFERENCE: "L'apiculture au Québec." Léandre Dion, Féd. des producteurs apicoles du Québec.

P.M.

12:00 R3-045

CONFERENCE: "L'élevage du mouton." Avec Pierre Demers, agronome.

1:00-5:00 Mac.-Stew. Bldg

DISPLAYS/KIOSQUES.

1:00-R2-045

CONFERENCE: "La culture en serre." Avec J.-P. Soucy et J.-L. Lussier de la station de recherche de Ste-Martine.

3:00-R3-045

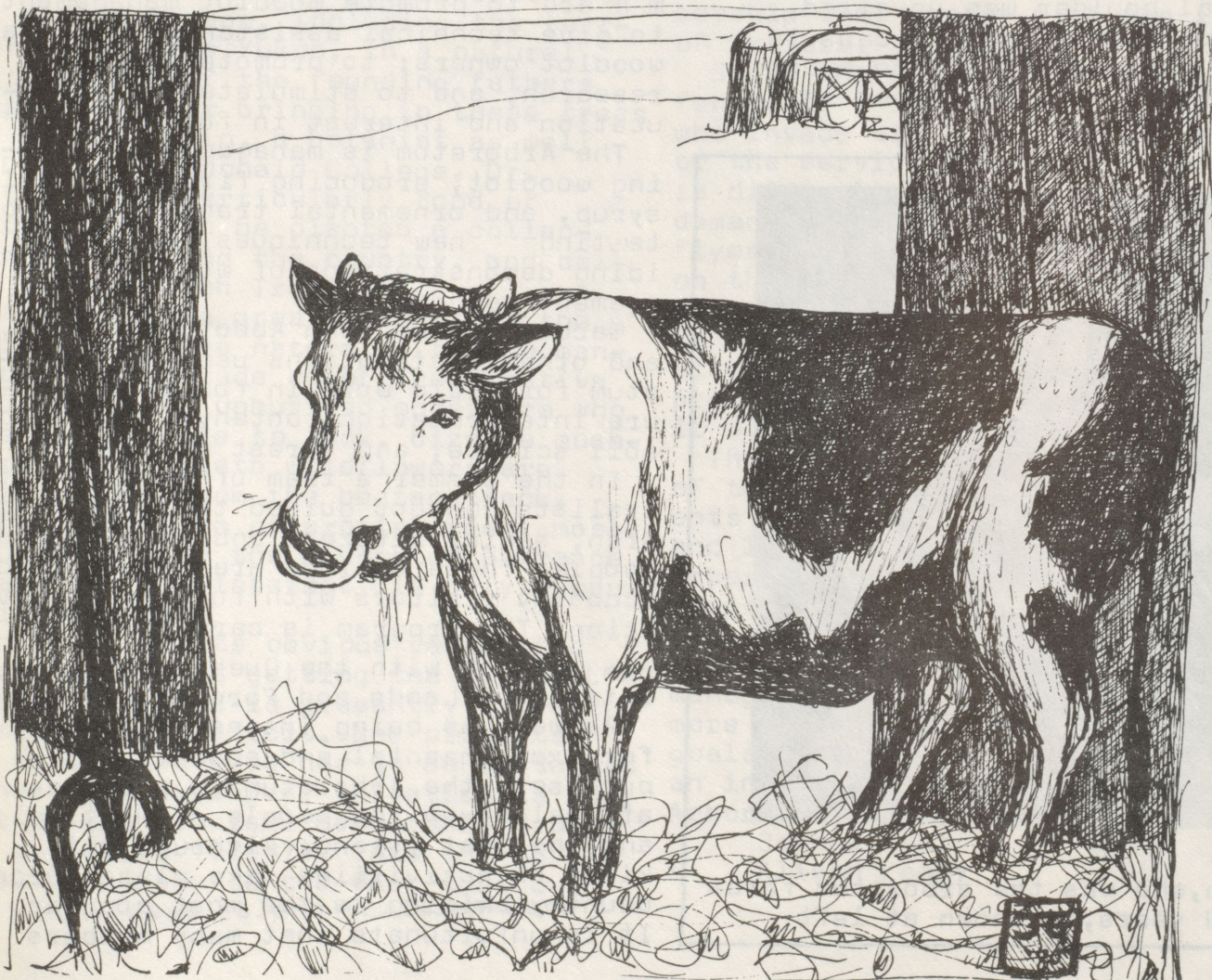
CONFERENCE: "L'élevage de la chèvre." Avec Martine Gadbois, éleveur caprin.

4:00-R2-045

DISCUSSION sur l'agriculture biologique.

Avec C. Boulanger du MAB.

8:00-MOVIE: "The Cheap Detective."



Morgan Arboretum,

The Morgan Arboretum is a 550 acre woodland to the north of the Trans-Canada highway next to Macdonald College. Membership of the Morgan Arboretum Association gives free access to the Arboretum at all times, you receive the Association newsletter, and may buy woodlot produce. Students of McGill and Macdonald automatically have membership privileges. Others pay a small yearly fee.

The Arboretum land was originally owned by the Morgan family of Sennerville, who generously made it available to McGill University. One of the terms of the deal was that the Arboretum be maintained for one hundred years. In 1947 the Arboretum was inaugurated, and a commemorative plaque on a glacial boulder was unveiled. Somewhere on the property a capsule containing photographs of the event was buried; it is to be opened in the year 2007.



The Arboretum has a dual vocation: to serve as a practical learning lab, and to provide a recreation area for the public. The objectives of the MAA are to promote woodlot management, to give technical assistance to private woodlot owners; to promote forestry research, and to stimulate public education and interest in forestry.

The Arboretum is managed as a working woodlot, producing firewood, maple syrup, and ornamental trees and shrubs, testing new techniques, and providing demonstrations of woodlot management methods.

Macdonald and John Abbott Colleges, and other institutions use the Arboretum for field work in forestry, nature interpretation, botany, entomology, soil science, and forest ecology.

In the summer a team of student naturalists conduct guided tours for children, senior citizens and handicapped people. These outings are designed to acquaint visitors with forest conservation. The program is carried out in

conjunction with the Quebec department of Lands and Forests.

As well as being intensively used for experimental and educational purposes, the Arboretum is a recreational haven for people of Montreal and the West Island. Although all kinds of activities take place, cross country skiing is the most popular. It is unfortunate that many members



Bob Watson, who was the arboretum foreman for 30 years, is shown at left

More Than Trees Come

ignore the Arboretum's charm in the Spring, Summer, and Fall.

The Arboretum is the permanent home for numerous wild animals, and a rest stop for migrating birds. Even if only tracks leave evidence of their passing, fox, raccoon, rabbit, and many species of mice, shrews and moles are present. More familiar animals are the red and grey squirrels, and the chipmunk. Many species of birds can be seen as well as heard: nuthatches, colourful warblers, owls and hawks. In the winter-time, a favourite little bird is the black-capped chickadee which is not afraid to perch in ones hand to eat birdfeed.

The trees of the Arboretum make it unique. Where else on the island of Montreal can there be found trees from all across Canada, including the territories and the Yukon, in a natural setting? One of the founding fathers responsible for bringing in these trees was Dr. Brittain, a botanist as well as Dean of Macdonald College. Dr. Brittain was particularly fond of birch trees, so he planted a collection from around the country, and called it the Birch Trail.

Of course the greatest part of the Arboretum is the natural, (though managed) forest, made up of trees native to Quebec. For unhurried observers who take the trouble to look, bizarre mushrooms and delicate wildflowers are hiding, away from the beaten track.

The collection of exotic trees, mostly planted near the Arboretum entrance, is of special interest, if only because of its novelty.

In spite of its obvious value, the Arboretum is not getting the support it deserves, and is presently operating under a heavy deficit. New projects and activities have had to be curtailed rather than expanded. Inflation is only part of the problem. Membership dropped by 17% in 1978-79. This can be attributed partly to the fact that a great many West Island families have



recently moved out of the province. Also, the snowless winter did not bring the expected annual rise in membership that occurs with the influx of skiers.

Since the Arboretum is too big to be fenced off, it suffers from free-loaders who invade via adjoining properties, or the service road to the South. It is difficult to meet these people and demand they become supporters. However, flyers inviting them to join are left on the cars of non-members. Anyone not wearing an AA member's badge is likely to have it pointed out to them that although the Association aims do include promoting public interest in woodlands, it does need public support.

The Arboretum is a very special part of the Macdonald campus, offering students opportunities for both learning and leisure. Most importantly, the Arboretum could benefit from increased support in carrying out its objectives of educating the public, and furthering research into woodland management. Hopefully we acquainted more students with the MAA and its goals. Let this article be considered an invitation to come up and visit the Arboretum in any season.

Joanne Kent

Alison Lemay

LES POLITIQUES CANADIENNES

Flora McDonald, ministre des affaires extérieures sous le gouvernement Clark, déclarait il n'y a pas si longtemps que 'l'aide extérieure soit d'avantage orientée vers les pays qui peuvent entretenir des liens commerciaux avec le Canada.'

Dans la même veine, un autre ministre, mais des finances cette fois, faisait remarquer que 'le canadien moyen considère que la gravité des problèmes économiques internes ne permet pas un accroissement de l'aide canadienne dans les pays en voie de développement. (Devoir 4/10/79)

Ces deux questions ainsi que la position des ONG (organismes non-gouvernementaux) avaient fait l'ébauche d'une émission de 'Terre à Terre' sur les ondes CKRL-FM le 17 janvier 1980. Les grandes lignes qui en ressortaient étaient les suivantes:

- 1) l'aide étrangère ouvre des marchés immédiats de biens et services Canadiens et Américains
- 2) l'aide étrangère encourage les industries canadiennes et américaines au développement de nouveaux marchés.
- 3) l'aide étrangère oriente les économies nationales à travers un système de libre entreprise dans laquelle les USA et le Canada peuvent prospérer.

Pour bien cerner la question de l'intervention canadienne dans le Tiers-Monde, il faudrait d'abord comprendre les conditions économiques sociales et politiques de ces pays. Pour cela traçons un aperçu historique.

Vers la fin du 18^{ième} siècle presque tous les pays en voie de développement étaient sous l'égide coloniale des pays développés. Les colonisateurs tiraient d'énormes profits grâce à une main-d'oeuvre peu coûteuse et au manque de compétition. Les investissements coloniaux étaient dirigés dans les industries de matières premières. Ces dernières étaient transformées à domicile en biens manufacturés et revendus dans les colonies sans aucune barrière tarifaire.

L'exemple du textile indien à ce sujet est assez éloquent. L'Inde exportait ces produits manufacturés pourtant, vers la fin du 18^{ième} siècle elle devait en importer. De 1815 à 1832 les exportations de coton diminuèrent de 92%. En 1850 l'Inde devait acheter le quart des exportations de coton de

la Grande Bretagne. La ruine des échanges traditionaux indiens est le résultat des pratiques commerciales de la Grande Bretagne.

Les cinquantes années comprises entre 1890 et la deuxième guerre mondiale fut la période la plus intense de la colonialisme. Mais après le monde se divisa en deux puissances, l'Europe de l'Ouest et l'Amérique du Nord.

Dans les années 1940 à 1960, une nouvelle ère commença où plusieurs pays d'Afrique et d'Asie trouvèrent leur indépendance et auxquelles vinrent s'ajouter les révolutions Russe et Chinoise..

Aujourd'hui le colonialisme est mort mais son spectre vit toujours puisque les pays en voie de développement dépendent souvent de l'exportation de un ou de plusieurs produits et importent la plupart de leurs biens manufacturés. Les investissements étrangers dominent leurs industries et malgré leur indépendance, ces pays se trouvent sous la domination économique étrangère ce que l'on appelle maintenant le "néo-colonialisme". Une nouvelle ère pour les pays capitalistes qui continuent de faire d'énormes profits aux dépens du Tiers-Monde. Nouvelle, parce que à côté de l'Europe de l'Ouest, du Japon, des USA viennent s'ajouter des pays comme la Suisse qui n'ont jamais eu de colonies.

-Obstacles au développement

On énonce bien souvent que le principal obstacle au développement est dû à la surpopulation. Cela est vrai dans la mesure où l'accroissement de la population n'est pas accompagné d'une croissance économique. En fait, c'est un moyen facile de ne pas admettre que la situation du Tiers-Monde est attribuable à des systèmes sociaux antiques une classe dirigeante rapace et pour couronner le tout une exploitation étrangère.

-Notion du dualisme régional et technologique.

Les pays en voie de développement comme les pays capitalistes développés connaissent tous les deux des disparités régionales. Certaines ré-

D'AIDE A L'ETRANGER

Nicolas Mesny

ions ou provinces à l'intérieur de pays comme le Brésil et le Mexique connaissent des écarts grandissants dans la productivité par homme aussi bien que dans les revenus. Tandis que dans les pays développées cet écart tend à diminuer.

C'est ainsi que les économies du Tiers-Monde peuvent être radicalement divisées en deux. Ce phénomène de dualisme technologique se traduit d'un côté par un secteur avancé technologiquement comme l'industrie pétrolière, les mines et les grandes plantations ainsi que les services les accompagnant c'est-à-dire les assurances, le transport et les échanges commerciaux. De l'autre côté, on retrouve les secteurs traditionnels incluant l'agriculture vivrière et les petites industries

Par conséquent on ne peut pas dire que les pays du Tiers-Monde sont des régimes où le développement n'a pas pris place. Mais on peut constater que les secteurs liés au marché mondial bénéficient de forts investissements et de capital ce qui s'ensuit d'une augmentation de la productivité. Tandis que le secteur traditionnel continue de se caractériser par une faible productivité et des revenus toujours bas.

Donc, si l'on examine les effets du commerce étranger dans les pays en voie de développement on trouve que:

Primo, les pays en voie de développement ont une croissance rapide dans la production de matières premières et des produits alimentaires destinés à l'exportation vers les pays impérialistes. Parallèle à cela, la production des biens et services internes croît très lentement sinon pas du tout.

Secundo, 73.5% du commerce extérieur total des pays capitalistes développés se fait entre eux. La dépendance continue des pays en voie de développement est due à ce que 74% de leurs commerces extérieurs se fait avec les pays développés. Entre 1948 et 1964 on constate que:

(1) la croissance commerciale des pays impérialistes a été beaucoup plus grande que celle du Tiers-Monde

(2) les pays impérialistes sont devenus beaucoup moins dépendants du Tiers-Monde en ce qui a trait aux exportations

(3) Les pays du Tiers-Monde deviennent de plus en plus dépendants des pays capitalistes

En allant voir en détail l'image que nous laisse les pays en voie de développement comme exportateurs de matières premières et importateurs de biens finis, on s'aperçoit que, 85% des exportations sont constituées de matières premières, 5% de métaux et 10% de biens finis comme le textile.

Du côté des importations 60% sont des biens manufacturés sous forme de denrées alimentaires, ce qui ne conduira jamais à un développement mais à une dépendance accrue envers les exportateurs. Ces dernières années nous montrent que les exportations des pays développés sont de 30% de matières premières et 70% de biens finis.

C'est à la lumière de ces faits que les pays en voie de développement avaient pris l'initiative de convoquer la Session extraordinaire de l'Assemblée générale des Nations Unies sur les matières premières et le développement tenue en avril 1974. Ces pays ont alors proposé que l'ordre économique international soit modifié pour le rendre plus équitable.

Un nouvel ordre économique mondial?

Quelle est la position canadienne face à cela. D'après les déclarations de nos gouvernements on semble fixé sur certains intérêts.

Vendredi le 29 février 1980 des organismes non-gouvernementaux comme SUCO, OXFAM, Développement et paix mettront en lumière les recommandations faites au gouvernement face à une politique canadienne d'aide à l'étranger, ceci se tiendra au Collège Macdonald à Ste-Anne de Bellevue. Plusieurs personnalités sont invitées à faire partager leurs opinions en ce qui concerne le développement international. Autour du débat en fin d'après-midi on retrouvera

-M. Yvon Mader, secrétaire général de SUCO

-M. Fernand Potvin président d'OXFAM

-M. René Lacosse directeur de développement et paix

-un représentant de l'ACDI

A l'heure actuelle les rapports de force changent dans le monde, la crise

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FOOD SCIENCE SCENARIO

The title Food Science suggests it is an area involving the chemistry of foods and how foods are changed or modified by processing. For example—what happens to the flavour of fruit when it is dried? What happens to the nutrient content of milk when it is processed? These questions and countless others like them are explored by food scientists or food technologists in an effort to ensure that manufacturers produce food which is safe, nutritious and good-tasting. In the School of Food Science there are two programs: Food Chemistry major and Food Science major, which prepare students to answer these kinds of questions. An interesting facility we have at Macdonald, and that Food Science students use, is a pilot plant, a kind of mini food factory with equipment typical of those found in food processing plants.

The food industry is still growing, and there will be many challenging job opportunities in the 1980s in the area of quality control, production management, product development, and technical sales.

Dietetics is a major part of the School of Food Science. It is a professional course with graduates employed in hospitals, schools, restaurants, and other private or public institutions. Not only do the students learn about the processing of food, but they must also know management skills, food costs, institutional or food service preparation, sensory qualities, and the nutritive value of food.

The nutrition major prepares a grad-

Politiques

religieux en est un aperçu. Il va de soi qu'un tel dialogue public n'a de la richesse que dans la mesure où il y a échanges d'idées, alors c'est une invitation.

En ce qui nous concerne le débat est ouvert, M. Carleton de l'université d'Ottawa résume bien la situation: "je suppose que s'il fallait poser le problème en une seule phase, on pourrait dire que les gens continueront de se préoccuper des problèmes nationaux tant qu'ils n'auront pas compris que les problèmes internationaux sont aussi des problèmes nationaux".

uate for work in community nutrition education, as a nutrition consultant, or in research.

Closely aligned to the Dietetics major is the Food Administration program, which leads to managerial positions in the food service industry. As more and more meals are consumed away from home, the number of food service outlets will increase, and food service administrators will be in even greater demand.

The current level of consumer misunderstanding about food has created a demand for persons capable of solving problems in product development, communications, market research, public relations, and consumer education. The Consumer Services major responds to this demand, and prepares students for jobs in the food industry or government agencies.

The School of Food Science also offers the courses required to teach home economics, in conjunction with the education faculty at McGill.

Food Science is definitely the career of the eighties!

Follow the signs to the School of Food Science displays to see how our students are leading the way!

HELPING HAND

'The Extension Department working in the community for a better rural Quebec.' This theme has become a tradition with the people that have worked with us on projects and programs throughout Quebec. The Extension Department acts as a liaison between the University and those involved in Agriculture. This is translated into various services, such as providing information, education and assistance in community development to the rural groups and population in general, and other interested people.

Provincial offices of several rural organizations are located in the Extension Department with whom personnel in Extension maintain a close contact.

Through this network of people and organizations the Extension Department provides an institutional presence of Macdonald to all corners of Quebec.

Martin van Lierop

Permanent Staff Problem

Dear Editor:

The Macdonald College Student Society employs directly or indirectly about 14 full-time staff members to run the operations of the Centennial Centre. The staff members are comprised of managerial and office staff; middle management and custodial staff. The unique blend of volunteer student organizations and full-time staff working together in a student building presents a number of real challenges to both staff and students.

The fact that the student body and its elected representatives are transients and the staff employed by the student body is not presents a unique paradox. The permanent staff were hired to add continuity to the day-to-day operations of the student centre. The staff are faced with similar problems from year to year and thus become very familiar with the business dealings of student organizations. This leads to a situation where the staff may consider the solution to a current problem to lie in past experiences while the student body may consider each problem it encounters to be unique and therefore should be dealt with in present terms using the resources at hand.

When managerial staff are hired by any employer the selection is greatly based on efficiency. Herein lies the dilemma. The transitory nature of the student body does not ensure that there will always be responsible student representatives in student government; nor can it ensure that the student representatives will always share the opinions or concerns of the permanent staff.

Now it is appropriate to restate the paradox. The student body employs permanent staff to manage their business affairs because students do not have the time or the business expertise to manage these affairs. With a changing student population each year also come changing student needs. When these student needs are expressed, they must be incorporated into the formula and attended to by the student representatives and staff alike.

There are times when the student body will feel that their special needs are not given priority over the concerns of the permanent staff. This should never be the case. The student body should be aware of how they can best use the talents of the permanent staff. By the same token the permanent staff should be conscious

of the talent that the students possess. To put things in their proper perspective: "Students and staff must work together if the whole philosophy of a student centre offering student services is to be honored."

With the upcoming elections in student government it is important that students know why permanent staff exists and how they work for the student body. Students should know the limitations of their permanent staff and understand that the optimum level of student services will only be obtained if students have an increased input in the decisions that affect them. It involves some time and effort on the behalf of your elected representatives so you should ensure that those candidates who represent your needs receive your support.

This letter reflects my personal opinion on permanent staff and student society and is **not** meant to be a "Council position" on this point.

Yours very truly,
John Hutchings.



PROBING PROCESSING

In the School of Food Science at Macdonald College, research activities of the staff and students are directed mainly towards the processing and chemical aspects of foodstuffs. Preservation of foods by various processing techniques (Canning, dehydration, etc.) is necessary in a country like Canada, if our summer-grown foods are to be available to the public the whole year.

Food attributes, such as taste, texture, and nutritional value, which can be attributed to the chemical integrity of the food, change during food processing. At the present time, studies involving changes in these three attributes are being carried out on processed foods. For example, thermal stability of the vitamins, thiamine and folic acid, is being investigated in various systems. Flavour and textural changes in foods, which occur as the result of preservation by water removal are also being investigated.

Studies are directed towards not only foods which are available in

the raw form, but developmental projects relating to the fabrication of new foods are also being carried out. For example, proteins from plants such as soybean are being treated by new techniques to produce meat analogues.

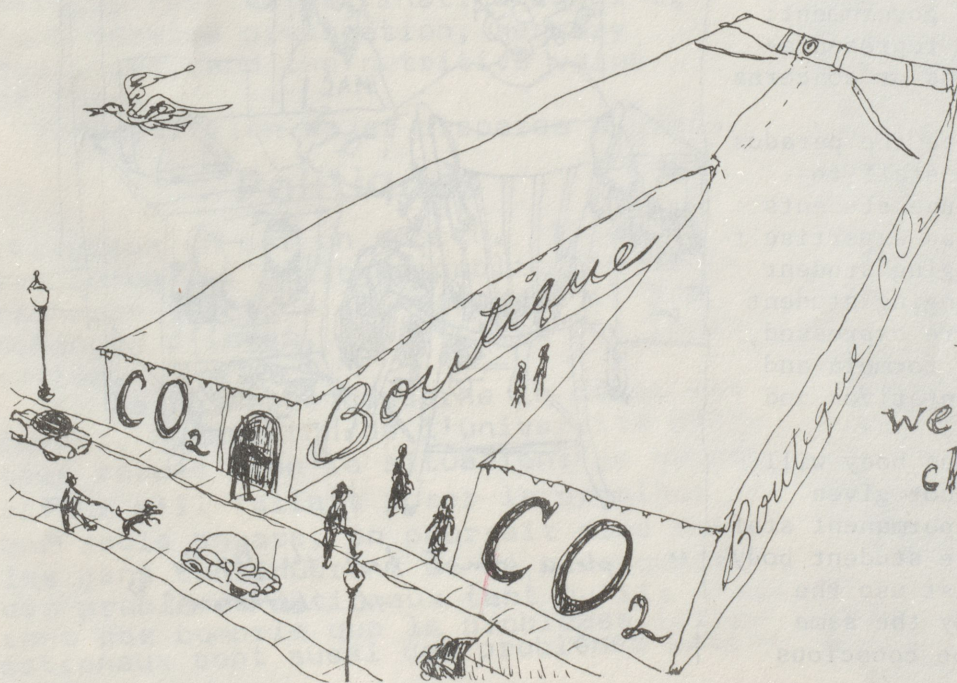
In order not to overlap the Plant Science and Animal Science displays, General Agriculture students chose to inform the public on 'Marginal Productions', in our country. Therefore our visitors will benefit from information such as sheep, rabbits, pheasants, christmas tree plantations, maple syrup, and recycling.

As you know, there is a trend toward small animal farms; the time and money investment being smaller than that for crop production and dairy farming. You will find out about management practices, financial considerations, and where to get references.

Francine Daigneault.

Boutique CO₂

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